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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,279	11/23/2001	Hyung-Ki Hong	8733.545.00	2426
30827 7590 06/19/2007 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			EXAMINER SEFER, AHMED N	
			ART UNIT 2826	PAPER NUMBER
			MAIL DATE 06/19/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/990,279	Applicant(s) HONG, HYUNG-KI	
	Examiner A. Sefer	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed 2/28/2007 has been entered and claims 2 and 3 have been cancelled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihara et al. ("Yoshihara") USPN 6,115,016 in view of Zacracky et al. ("Zacracky") US PG-Pub 2002/0158823.

Yoshihara discloses in figs. 2-14 a field sequential liquid crystal display device, comprising: a liquid crystal panel having an upper substrate 2, a lower substrate 4 and a liquid crystal layer 13 therebetween; liquid crystal panel displaying an image frame by frame; a backlight device 22 under the liquid crystal panel for irradiating light to the liquid crystal panel and having Cyan, Magenta and Yellow color light sources; the backlight device sequentially turning the color light sources during each frame; and an image signal processor 31 and a lighting order and combination of the color light sources (figs. 3 and 4); wherein the each of the

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light sources is turned on for less than one third of a time frame during each time frame (col. 3, lines 1-15), but does not specifically disclose that the processor controls a lighting order.

Zacracky discloses in figs. 2-14 a field sequential liquid crystal display device, comprising: a liquid crystal panel having an upper substrate 156/2090, a lower substrate 124/2090 and a liquid crystal layer 2080 therebetween; liquid crystal panel displaying an image frame by frame; a backlight device 1111 under the liquid crystal panel for irradiating light to the liquid crystal panel and having color light sources; the backlight device sequentially turning the color light sources during each frame; and an image signal processor 1104 controlling (par. 187) a lighting order and combination of the color light sources (the full color display as stated in par. 257 and fig. 14A would include combination of RED, Green, and Blue color light sources); wherein the each of the light sources is turned on for less than one third of a time frame during each time frame (pars. 5 and 178). Note that Cyan, Magenta and Yellow are complimentary colors of RED, Green, and Blue.

Therefore, in view of Zacracky's teachings, one having an ordinary skill in the art at the time the invention was made would be motivated to modify Yoshihara by incorporating a signal processor such as that of Zacracky. The motivation would have been to send clock and digital control signals as taught by Zacracky (par. 187).

Re claim 2, Yoshihara et al. disclose (col. 6, lines 30-52) each of the three color light sources has one of colors Cyan, Magenta and Yellow.

Re claim 4, Yoshihara et al. disclose (col. 8, lines 17-29) the image signal processor changes the lighting order and combination of the three color light sources depending on image characteristics displayed in the liquid crystal panel.

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Re claims 5 and 6, Yoshihara et al. disclose (col. 5, lines 54-59) liquid crystal layer is Optical Compensated Birefringent (antiferroelectric liquid crystal) mode or Ferroelectric Liquid Crystal (FLC) mode (as in claim 6).

Re claims 7 and 8, Yoshihara et al. disclose (col. 3, lines 1-15) the three color light sources are sequentially lit for up to about [fraction (1/180)] second at three subframes when one frame period is approximately [fraction (1/60)] second; wherein a lighting time of each of the light sources at each subframe is less than [fraction (1/180)] second (as in claim 8).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (571) 272-1921.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on (571) 272-1236.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ANS
June 11, 2007


A. Sefer
Patent Examiner
Art Unit 2826